FCC TEST REPORT

FCC ID: 2BO2D-9086

On Behalf of

Shantou Chenghai Long Xiang Toys Industry Co. , Ltd.

Toy series

Model No.: 9086, Other see model list

Prepared for	:	Shantou Chenghai Long Xiang Toys Industry Co. , Ltd.
Address	:	Chenghua industrial zone, Wenguan Road, Chenghai District city, Shantou

Prepared By	:	Shenzhen Alpha Product Testing Co., Ltd.
Address	:	Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

Report Number	:	A2504212-C01-R01
Date of Receipt	:	April 21, 2025
Date of Test	:	April 21, 2025 – July 4, 2025
Date of Report	:	July 4, 2025
Version Number	:	V0
Test Result	**:**	**Pass**

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TEST REPORT DECLARATION

Applicant	:	Shantou Chenghai Long Xiang Toys Industry Co. , Ltd.
Address	:	Chenghua industrial zone, Wenguan Road, Chenghai District city, Shantou
Manufacturer	:	Shantou Chenghai Long Xiang Toys Industry Co. , Ltd.
Address	:	Chenghua industrial zone, Wenguan Road, Chenghai District city, Shantou
EUT Description	:	Toy series
	(A) Model No.	: 9086, Other see model list
	(B) Trademark	: N/A

Measurement Standard Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.247

ANSI C63.10:2013

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C limits both conducted and radiated emissions. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After the test, our opinion is that EUT compliance with the requirement of the above standards.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Tested by (name + signature).....…..:	Yannis Wen Project Engineer	Yannis Wen
Approved by (name + signature)…....:	Jack Xu Project Manager	Jack Xu
Date of issue……..:	July 4, 2025	

Revision History

Revision	Issue Date	Revisions	Revised By
V0	July 4, 2025	Initial released Issue	Yannis Wen

1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below:

Test Item	Standards Paragraph	Result
Maximum Peak Output Power	FCC Part 15: 15.247(b)(1) ANSI C63.10 :2013	P
Bandwidth	FCC Part 15: 15.215 ANSI C63.10 :2013	P
Carrier Frequency Separation	FCC Part 15: 15.247(a)(1) ANSI C63.10 :2013	P
Number Of Hopping Channel	FCC Part 15: 15.247(a)(1)(iii) ANSI C63.10 :2013	P
Dwell Time	FCC Part 15: 15.247(a)(1)(iii) ANSI C63.10 :2013	P
Radiated Emission	FCC Part 15: 15.209 FCC Part 15: 15.247(d) ANSI C63.10 :2013	P
Band Edge Compliance	FCC Part 15: 15.247(d) ANSI C63.10 :2013	P
Power Line Conducted Emissions	FCC Part 15: 15.207 ANSI C63.10 :2013	N/A
Antenna requirement	FCC Part 15: 15.203	P

Note: 1. P is an abbreviation for Pass.

2. F is an abbreviation for Fail.
3. N/A is an abbreviation for Not Applicable.
4. The conclusion of this test report is judged by actual test data without considering measurement uncertainty.

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Description	:	Toy series
Model Number	:	9086, Other see model list
Diff	:	There is no difference except for the color of the shell. All tests are made with the 9086 model.
Power supply	:	DC 3V from battery
Radio Technology	:	2.4G SRD
Operation frequency	:	2407-2477MHz
Channel No.	:	49 Channels
Modulation type	:	GFSK
Antenna Type	:	Internal antenna, Maximum Gain is 0.59dBi (Antenna information is provided by applicant.)
Software version	:	V1.0
Hardware version	:	V1.0
Intend use environment	:	Residential, commercial and light industrial environment

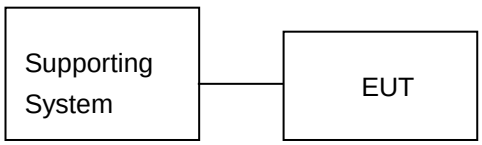
2.2. Accessories of Device (EUT)

Accessories	:	N/A
Manufacturer	:	N/A
Model	:	N/A
Ratings	:	N/A

2.3. Tested Supporting System Details

No.	Description	Manufacturer	Model	Serial Number	Certification or SDoC
1.	Notebook PC	Lenovo	ThinkPad L14	N/A	N/A

2.4. Block Diagram of connection between EUT and simulators



2.5. Test Mode Description

Tested mode, channel information		
Mode	**Channel**	**Frequency (MHz)**
GFSK Hopping-off mode	Low :CH1	2407
	Middle: CH32	2442
	High: CH49	2477
GFSK Hopping-on mode	Hopping	2407-2477

Channel list									
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
CH1	2407	CH11	2417	CH21	2431	CH31	2441	CH41	2469
CH2	2408	CH12	2418	CH22	2432	CH32	2442	CH42	2470
CH3	2409	CH13	2419	CH23	2433	CH33	2452	CH43	2471
CH4	2410	CH14	2420	CH24	2434	CH34	2462	CH44	2472
CH5	2411	CH15	2421	CH25	2435	CH35	2463	CH45	2473
CH6	2412	CH16	2422	CH26	2436	CH36	2464	CH46	2474
CH7	2413	CH17	2427	CH27	2437	CH37	2465	CH47	2475
CH8	2414	CH18	2428	CH28	2438	CH38	2466	CH48	2476
CH9	2415	CH19	2429	CH29	2439	CH39	2467	CH49	2477
CH10	2416	CH20	2430	CH30	2440	CH40	2468		

2.6. Test Conditions

Items	Required	Actual
Temperature range:	15-35℃	24℃
Humidity range:	25-75%	56%
Pressure range:	86-106kPa	98kPa

2.7. Test Facility

Shenzhen Alpha Product Testing Co., Ltd

Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103,

Shenzhen, Guangdong, China

2.8. Measurement Uncertainty

(95% confidence levels, k=2)

Item	**Uncertainty**
Uncertainty for Power point Conducted Emissions Test	1.63dB
Uncertainty for Radiation Emission test in 3m chamber (below 30MHz)	3.5dB
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	3.74dB(Polarize: V)
	3.76dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (1GHz to 25GHz)	3.77dB(Polarize: V)
	3.80dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (18GHz to 40GHz)	4.31 dB(Polarize: V)
	4.30 dB(Polarize: H)
Uncertainty for radio frequency	5.06×10^{-8}GHz
Uncertainty for conducted RF Power	0.40dB
Uncertainty for temperature	0.2℃
Uncertainty for humidity	1%
Uncertainty for DC and low frequency voltages	0.06%

2.9. Test Equipment List

Equipment	Manufacture	Model No.	Firmware version	Serial No.	Last cal.	Cal Interval
9*6*6 anechoic chamber	CHENYU	9*6*6	/	N/A	2025.03.09	4Year
4*4*3 Shielded room	CHENYU	4*4*3	/	N/A	2025.03.09	4Year
Spectrum analyzer	ROHDE&SCHWARZ	FSV40-N	2.3	102137	2024.08.08	1Year
Spectrum analyzer	Agilent	N9020A	A.14.16	MY499100060	2024.08.08	1Year
Receiver	ROHDE&SCHWARZ	ESR	2.28 SP1	1316.3003K03-102082-Wa	2024.08.08	1Year
Receiver	R&S	ESCI	4.42 SP1	101165	2024.08.08	1Year
Bilog Antenna	Schwarzbeck	VULB 9168	/	VULB 9168#627	2023.08.28	2Year
Horn Antenna	SCHWARZBECK	BBHA 9120 D	/	2106	2023.08.19	2Year
Loop Antenna	SCHWARZBECK	FMZB 1519B	/	00128	2023.08.19	2Year
RF Cable	Resenberger	Cable 1	/	RE1	2024.08.08	1Year
RF Cable	Resenberger	Cable 2	/	RE2	2024.08.08	1Year
RF Cable	Resenberger	Cable 3	/	CE1	2024.08.08	1Year
Pre-amplifier	HP	HP8347A	/	2834A00455	2024.08.08	1Year
Pre-amplifier	Agilent	8449B	/	3008A02664	2024.08.08	1Year
L.I.S.N.#1	Schwarzbeck	NSLK8126	/	8126-466	2024.08.08	1Year
L.I.S.N.#2	ROHDE&SCHWARZ	ENV216	/	101043	2024.08.08	1Year
Horn Antenna	SCHWARZBECK	BBHA 9170	/	00946	2023.08.19	2Year
Preamplifier	SKET	LNPA_1840-50	/	SK2018101801	2024.08.08	1 Year
Power Meter	Agilent	E9300A	/	MY41496628	2024.08.08	1 Year
Power Sensor	DARE	RPR3006W	/	15100041SNO91	2024.08.08	1 Year
Temp. & Humid. Chamber	Teelong	TL-HW408S	/	TL-20191205-01	2024.07.15	1 Year
Electronic Thermo-Hygrometer	S.H.Qixiang	HTC-1	/	N/A	2024.08.11	1 Year
Switching Mode Power Supply	JUNKE	JK12010S	/	20140927-6	2024.08.08	1 Year
Adjustable attenuator	MWRFtest	N/A	/	N/A	N/A	N/A
10dB Attenuator	Mini-Circuits	DC-6G	/	N/A	N/A	N/A

Software Information			
Test Item	Software Name	Manufacturer	Version
RE	EZ-EMC	Farad	Alpha-3A1
CE	EZ-EMC	Farad	Alpha-3A1
RF-CE	MTS 8310	MWRFtest	V2.0.0.0

3. MAXIMUM PEAK OUTPUT POWER

3.1. Limit

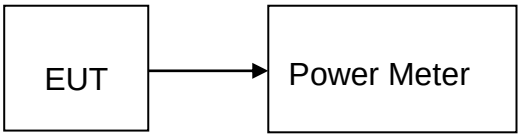
Please refer section 15.247.

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts, the e.i.r.p shall not exceed 4W

3.2. Test Procedure

The transmitter output is connected to the RF Power Meter. The RF Power Meter is set to the peak power detection.

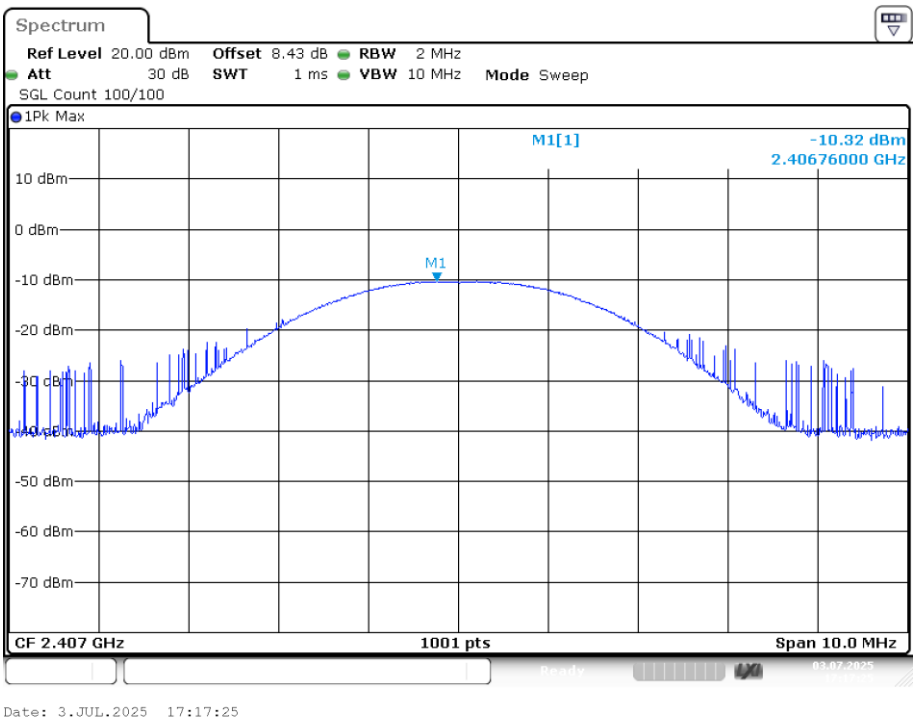
3.3. Test Setup



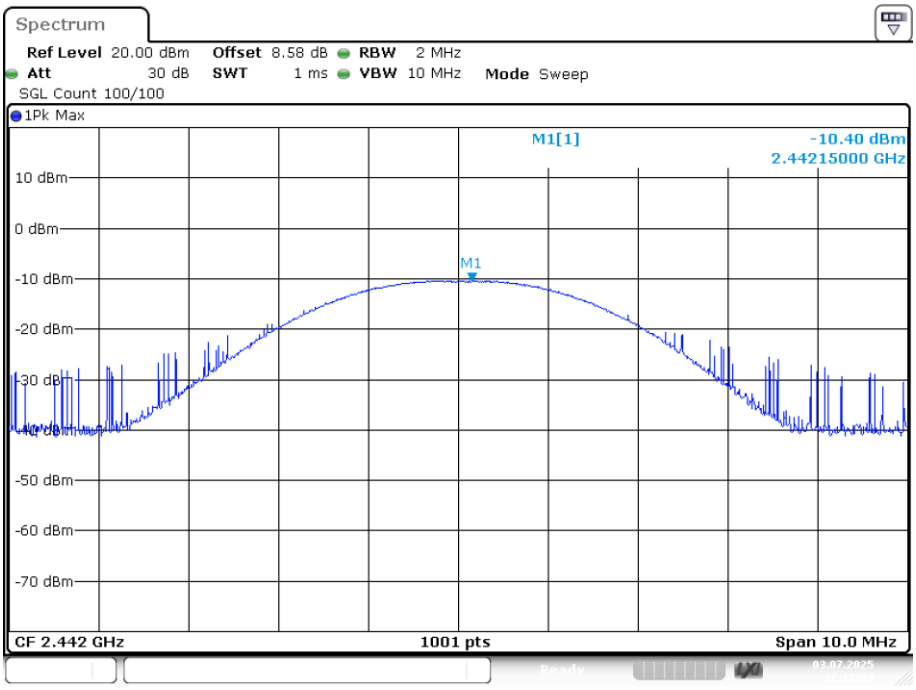
3.4. Test Result

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	GFSK	2407	Ant1	-10.321	21	Pass
NVNT	GFSK	2442	Ant1	-10.398	21	Pass
NVNT	GFSK	2477	Ant1	-11.288	21	Pass

Power NVNT GFSK 2407MHz Ant1



Power NVNT GFSK 2442MHz Ant1



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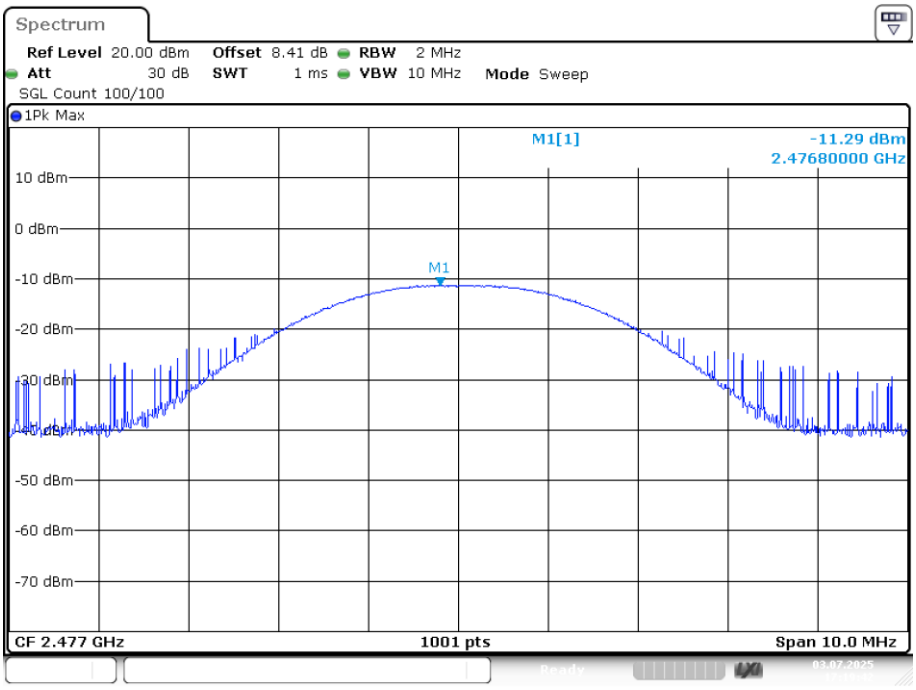
Power NVNT GFSK 2477MHz Ant1



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4. BANDWIDTH

4.1. Limit

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

4.2. Test Procedure

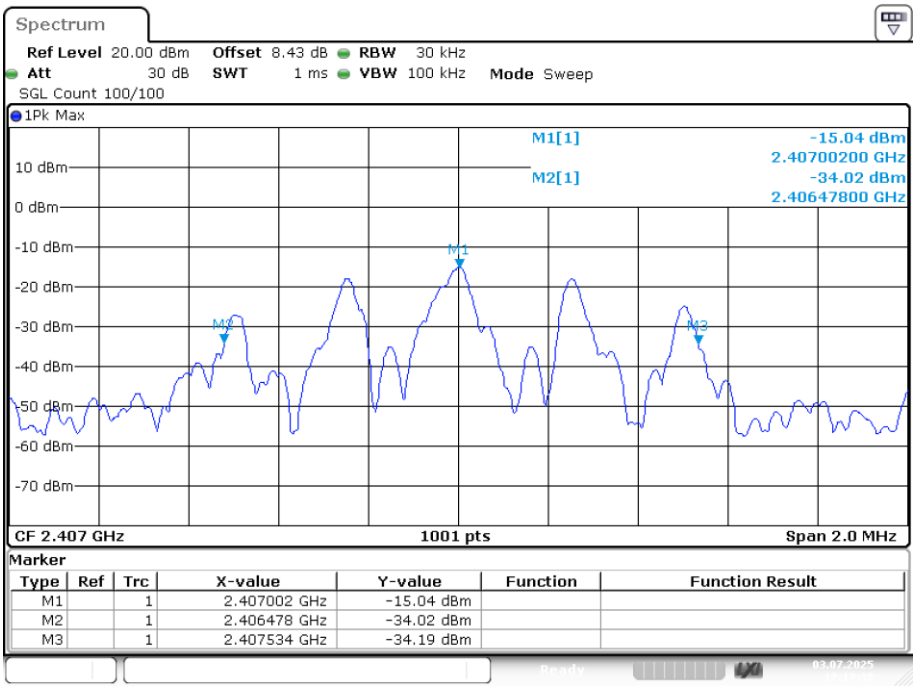
The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 30kHz RBW and 100kHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

4.3. Test Result

-20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	GFSK	2407	Ant1	1.056	/	Pass
NVNT	GFSK	2442	Ant1	1.066	/	Pass
NVNT	GFSK	2477	Ant1	1.054	/	Pass

-20dB Bandwidth NVNT GFSK 2407MHz Ant1



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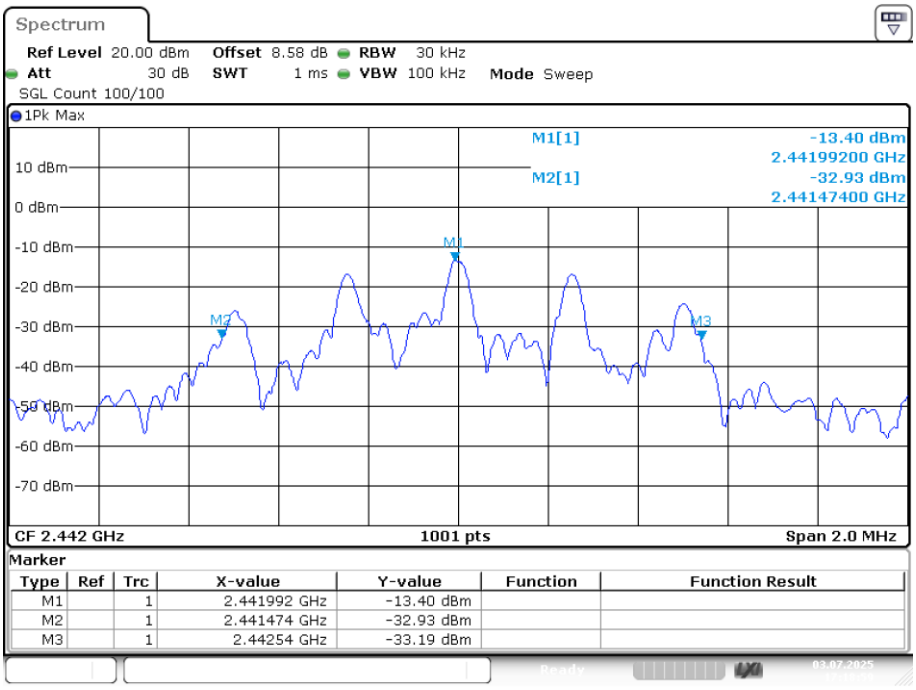
-20dB Bandwidth NVNT GFSK 2442MHz Ant1



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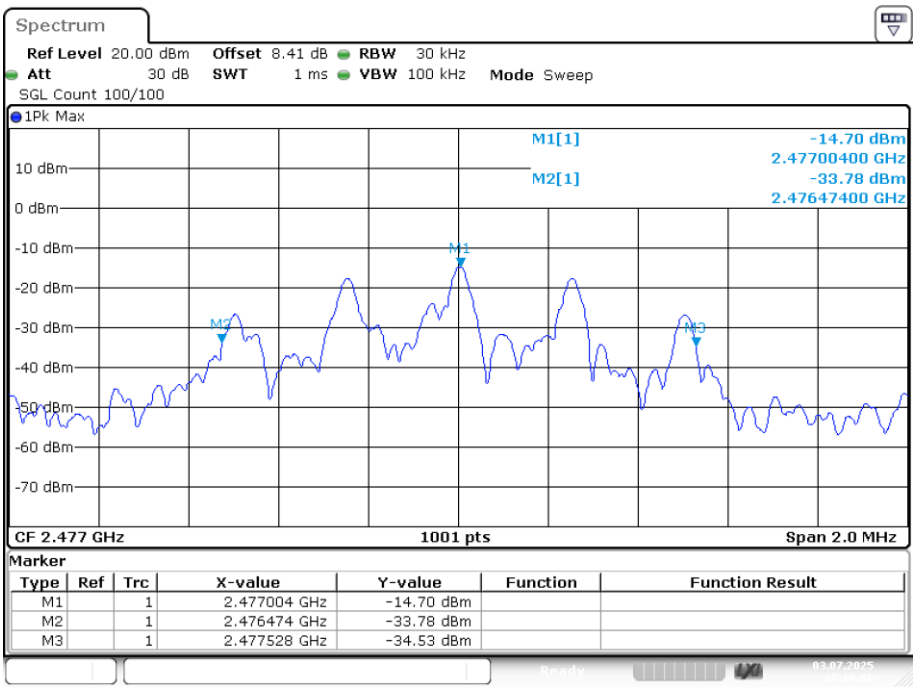
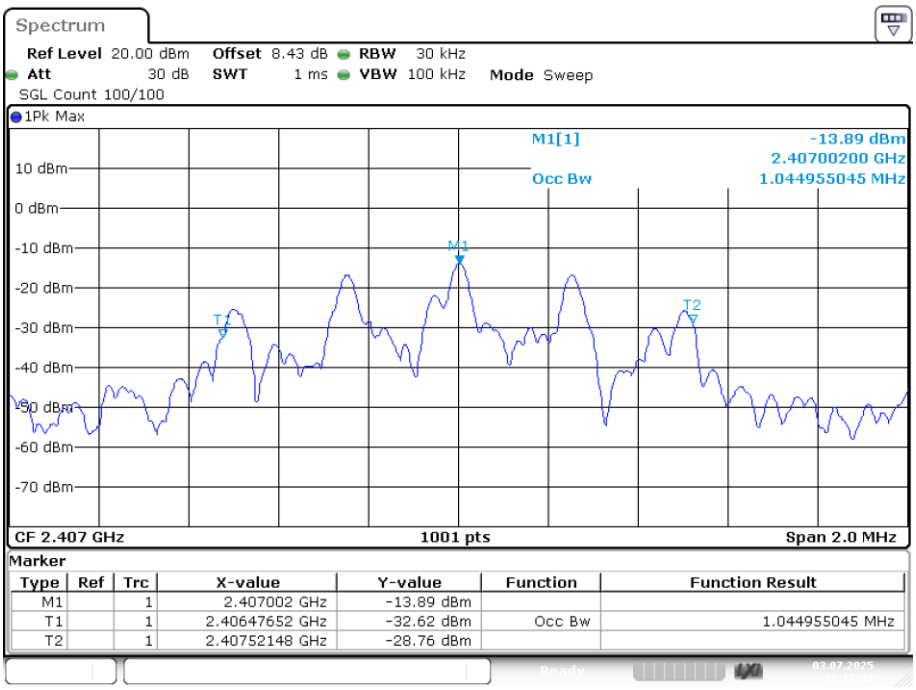
-20dB Bandwidth NVNT GFSK 2477MHz Ant1


Spectrum
Ref Level 20.00 dBm Offset 8.41 dB RBW 30 kHz
Att 30 dB SWT 1 ms VBW 100 kHz Mode Sweep
SGL Count 100/100
1Pk Max
M1[1] -14.70 dBm
2.47700400 GHz
M2[1] -33.78 dBm
2.47647400 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.477 GHz
1001 pts
Span 2.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.477004 GHz -14.70 dBm
M2 1 2.476474 GHz -33.78 dBm
M3 1 2.477528 GHz -34.53 dBm
Date: 3.JUL.2025 17:19:56

Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	GFSK	2407	Ant1	1.045
NVNT	GFSK	2442	Ant1	1.047
NVNT	GFSK	2477	Ant1	1.039

OBW NVNT GFSK 2407MHz Ant1



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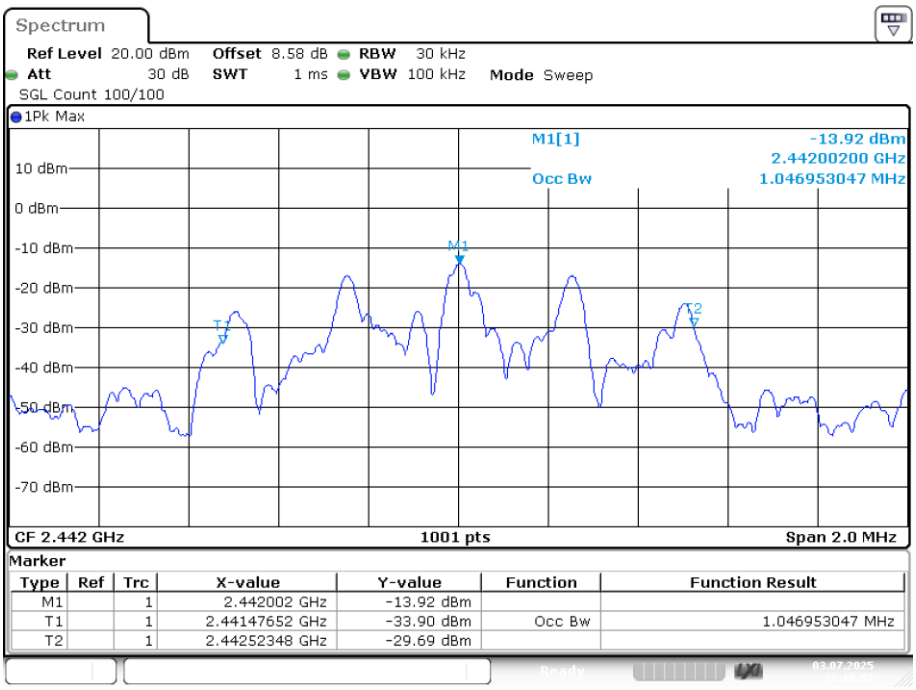
OBW NVNT GFSK 2442MHz Ant1



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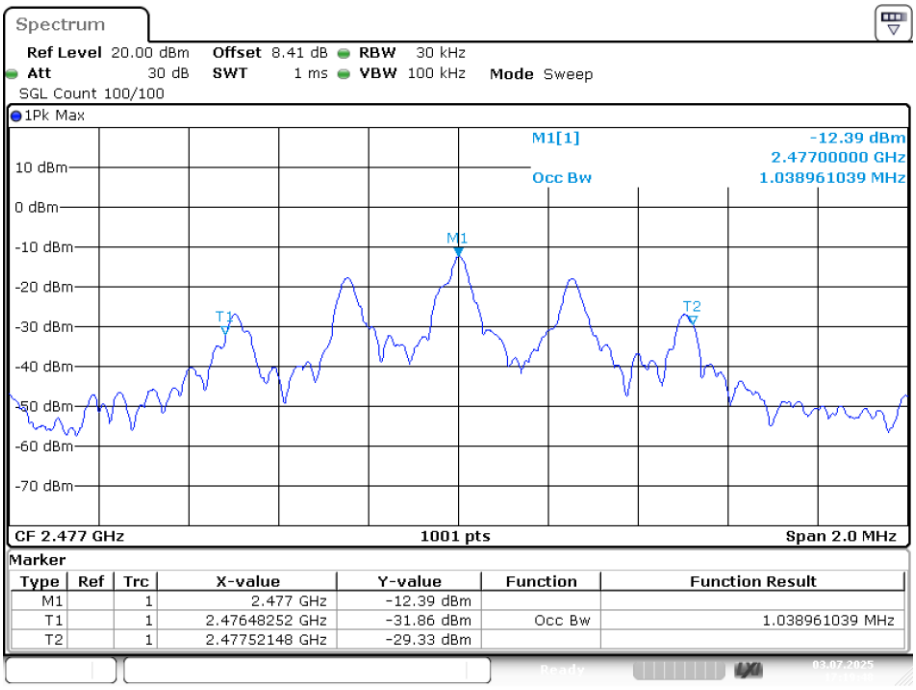
OBW NVNT GFSK 2477MHz Ant1



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5. CARRIER FREQUENCY SEPARATION

5.1. Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW

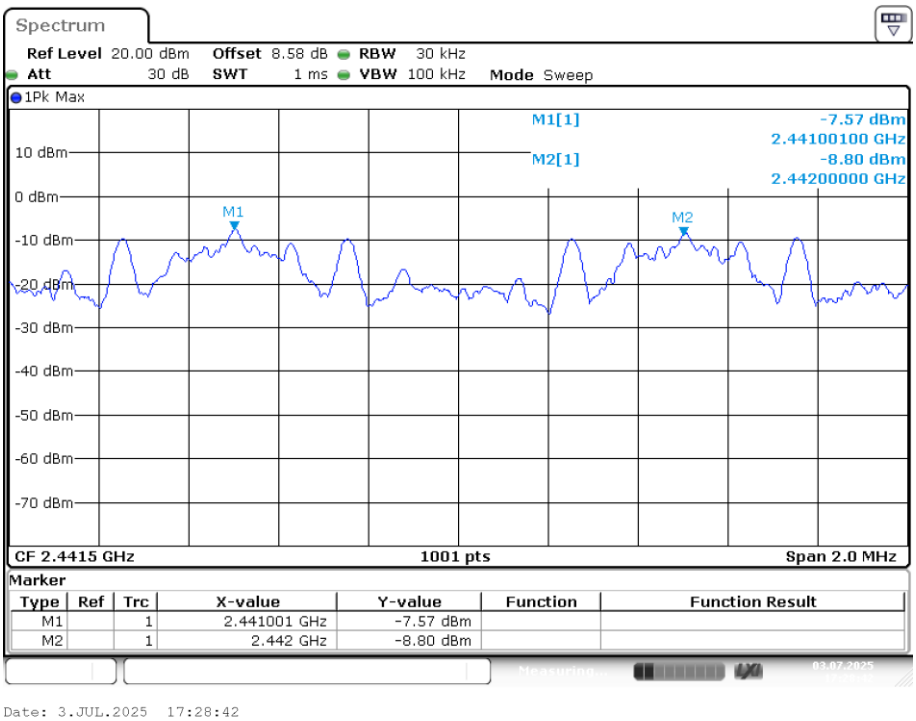
5.2. Test Procedure

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The carrier frequency was measured by spectrum analyzer with 30kHz RBW and 100kHz VBW.

5.3. Test Result

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	GFSK	Ant1	2441.001	2442	0.999	0.711	Pass

CFS NVNT GFSK 2442MHz Ant1



6. NUMBER OF HOPPING CHANNEL

6.1. Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels

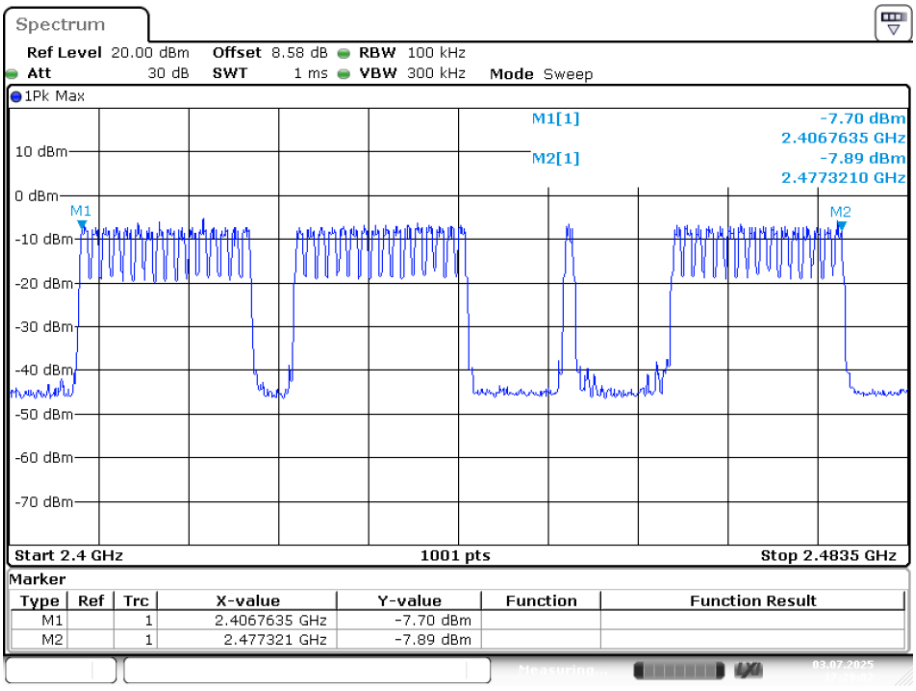
6.2. Test Procedure

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The number of hopping channel was measured by spectrum analyzer with 100kHz RBW and 300KHz VBW.

6.3. Test Result

Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	GFSK	Ant1	49	15	Pass

Hopping No. NVNT GFSK 2442MHz Ant1



7. DWELL TIME

7.1. Test limit

Please refer section15.247

According to §15.247(a)(1)(iii), Frequency hopping systems operating in the 2400MHz-2483.5 MHz. The average time of occupancy on any frequency shall not greater than 0.4 s within period of 0.4 sec- onds multiplied by the number of hopping channel employed.

7.2. Test Procedure

7.2.1. Place the EUT on the table and set it in transmitting mode.

7.2.2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

7.2.3. Set center frequency of spectrum analyzer = operating frequency.

7.2.4. Set the spectrum analyzer as RBW=1MHz, VBW=1MHz, Span = 0Hz, Sweep = auto.

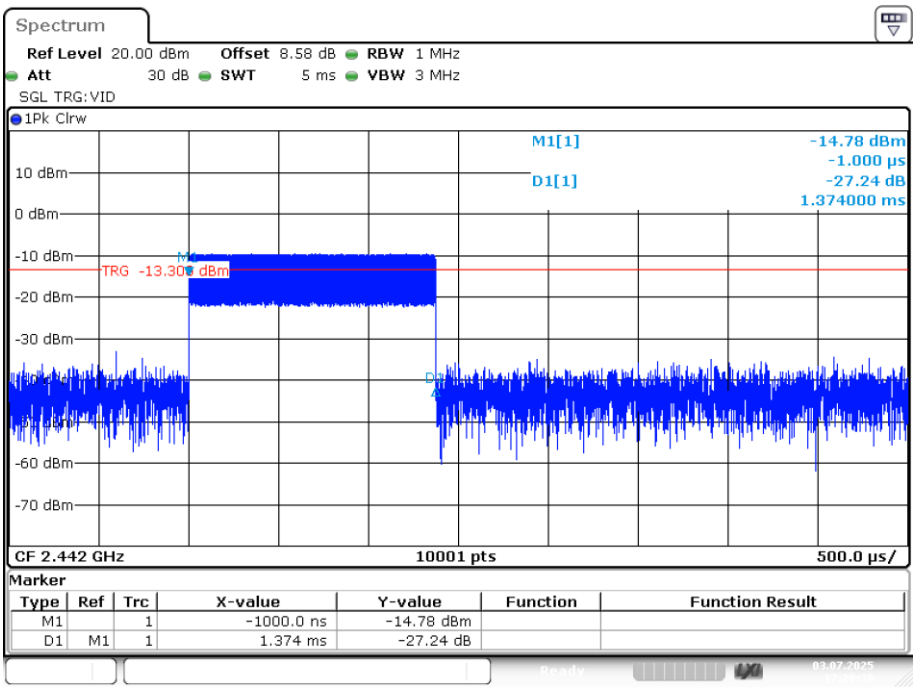
7.2.5. Repeat above procedures until all frequency measured were complete.

7.3. Test Result

Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	GFSK	2442	Ant1	1.374	125.034	91	19600	400	Pass

Note: Total Dwell Time= Pulse Time* Burst Count

Dwell NVNT GFSK 2442MHz Ant1 One Burst



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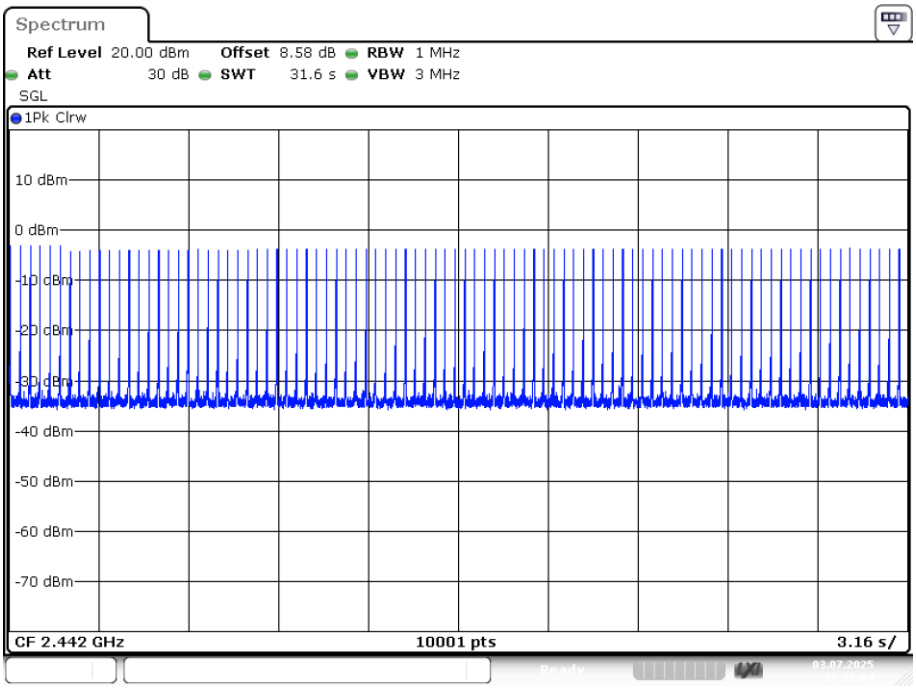
Dwell NVNT GFSK 2442MHz Ant1 Accumulated



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8. RADIATED EMISSIONS

8.1. Limit

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

15.205 Restricted frequency band

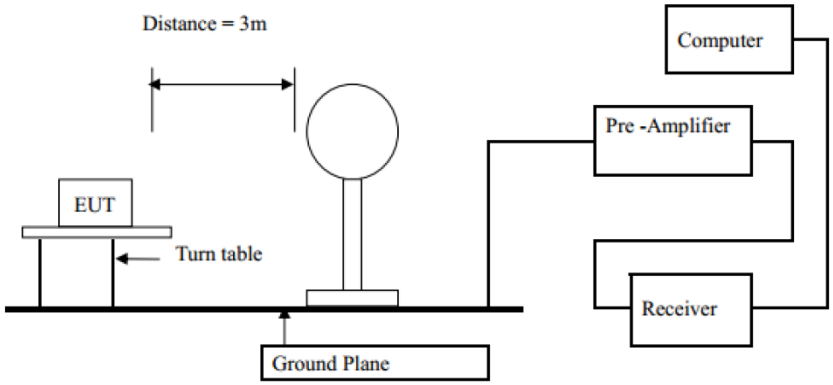
MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])

15.209 Limit

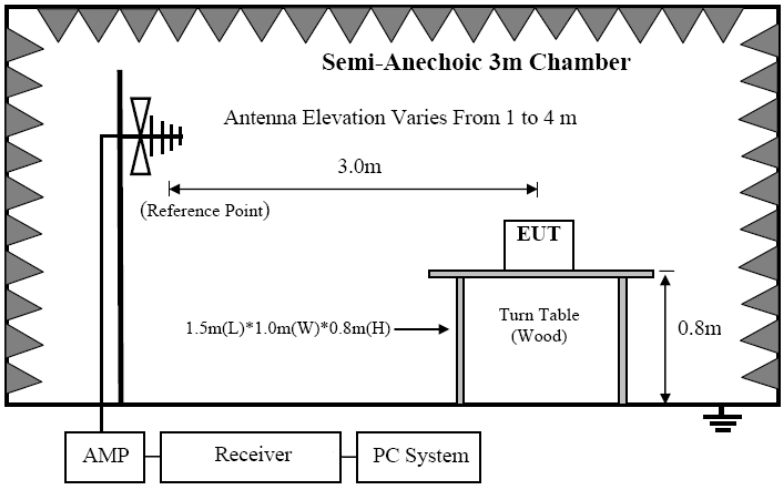
FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
0.009-0.490	300	2400/F(KHz)	/
0.490-1.705	30	24000/F(KHz)	/
1.705-30	30	30	29.5
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	

8.2. Block Diagram of Test setup

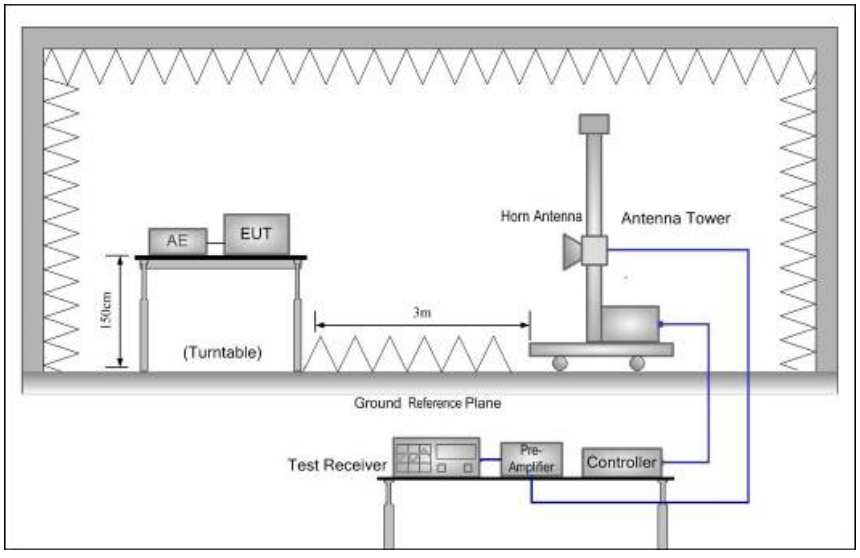
8.2.1 In 3m Anechoic Chamber Test Setup Diagram for below 30MHz



8.2.2 In 3m Anechoic Chamber Test Setup Diagram for below 1GHz



8.2.3 In 3m Anechoic Chamber Test Setup Diagram for frequency above 1GHz



Note: For harmonic emissions test a appropriate high pass filter was inserted in the input port of AMP.

8.3. Test Procedure

(1) EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber.

(2) Setup EUT and simulator as shown in section 1.4 and 6.1

(3) Test antenna was located 3m from the EUT on an adjustable mast. Below pre-scan procedure was first performed in order to find prominent radiated emissions.

(a) Change work frequency or channel of device if practicable.

(b) Change modulation type of device if practicable.

(c) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions

(4) Spectrum frequency from 9KHz to 25GHz (tenth harmonic of fundamental frequency) was investigated

(5) For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10:2013on Radiated Emission test.

(6) For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1MHz, VBW is set at 3MHz for Peak measure; RBW is set at 1MHz, VBW is set at 10Hz for Average measure.

8.4. Test Result

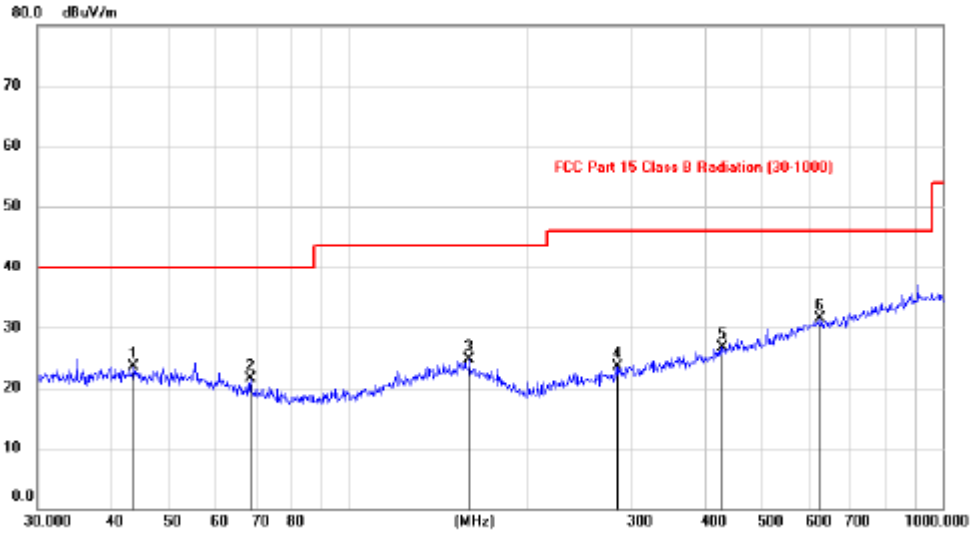
We have scanned the 10th harmonic from 9KHz to the EUT's highest frequency.
Detailed information please see the following page.

From 9KHz to 30MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

From 30MHz to 1000MHz: Conclusion: PASS

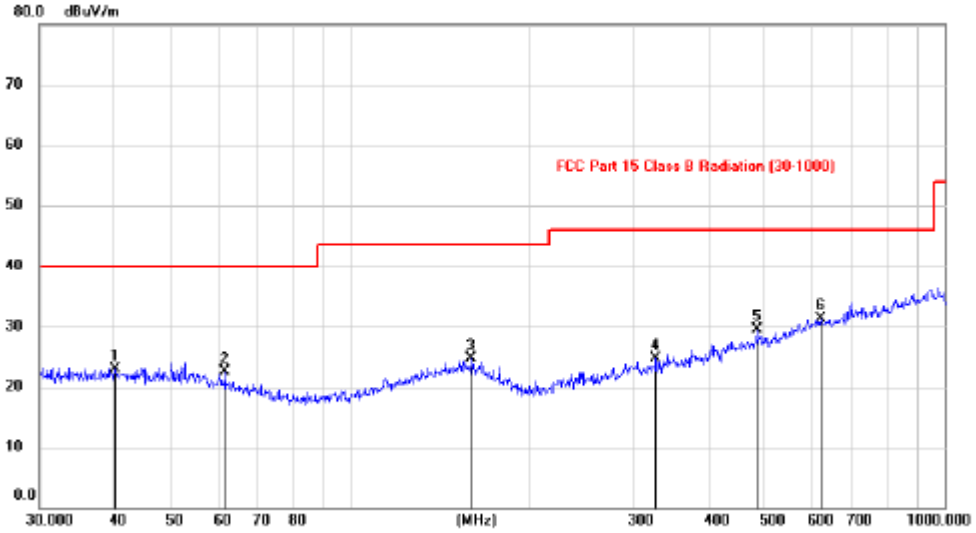
Vertical:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		43.5872	9.20	14.23	23.43	40.00	-16.57	peak			
2		68.5107	9.86	11.59	21.45	40.00	-18.55	peak			
3		159.8965	9.67	15.04	24.71	43.50	-18.79	peak			
4		284.2116	9.85	13.70	23.55	46.00	-22.45	peak			
5		428.0193	9.78	17.01	26.79	46.00	-19.21	peak			
6	*	624.1290	10.87	20.70	31.57	46.00	-14.43	peak			

Note:1. *:Maximum data; x:Over limit; !:over margin.
2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

Horizontal:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		40.2334	8.52	14.44	22.96	40.00	-17.04	peak			
2		61.5978	9.68	12.88	22.56	40.00	-17.44	peak			
3		159.7844	9.57	15.04	24.61	43.50	-18.89	peak			
4		327.2364	10.02	14.77	24.79	46.00	-21.21	peak			
5		483.6833	11.44	18.00	29.44	46.00	-16.56	peak			
6	*	619.0432	10.66	20.57	31.23	46.00	-14.77	peak			

Note:1. *:Maximum data; x:Over limit; !:over margin.
2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

Remark: All modes have been tested, and only worst data of GFSK (2407MHz) was listed in this report.

From 1G-25GHz

Test Mode: GFSK TX Low									
Freq (MHz)	Read Level (dBuV/m)	Polar (H/V)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4814	44.25	V	33.95	10.18	34.26	54.12	74	-19.88	PK
4814	37.41	V	33.95	10.18	34.26	47.28	54	-6.72	AV
7221	/	/	/	/	/	/	/	/	/
9628	/	/	/	/	/	/	/	/	/
4814	45.37	H	33.95	10.18	34.26	55.24	74	-18.76	PK
4814	36.32	H	33.95	10.18	34.26	46.19	54	-7.81	AV
7221	/	/	/	/	/	/	/	/	/
9628	/	/	/	/	/	/	/	/	/
Test Mode: GFSK TX Mid									
4884	41.14	V	33.93	10.2	34.29	50.98	74	-23.02	PK
4884	35.67	V	33.93	10.2	34.29	45.51	54	-8.49	AV
7326	/	/	/	/	/	/	/	/	/
9768	/	/	/	/	/	/	/	/	/
4884	43.82	H	33.93	10.2	34.29	53.66	74	-20.34	PK
4884	34.99	H	33.93	10.2	34.29	44.83	54	-9.17	AV
7326	/	/	/	/	/	/	/	/	/
9768	/	/	/	/	/	/	/	/	/
Test Mode: GFSK TX High									
4954	43.98	V	33.93	10.2	34.29	53.82	74	-20.18	PK
4954	34.98	V	33.93	10.2	34.29	44.82	54	-9.18	AV
7431	/	/	/	/	/	/	/	/	/
9908	/	/	/	/	/	/	/	/	/
4954	43.79	H	33.93	10.2	34.29	53.63	74	-20.37	PK
4954	32.87	H	33.93	10.2	34.29	42.71	54	-11.29	AV
7431	/	/	/	/	/	/	/	/	/
9908	/	/	/	/	/	/	/	/	/

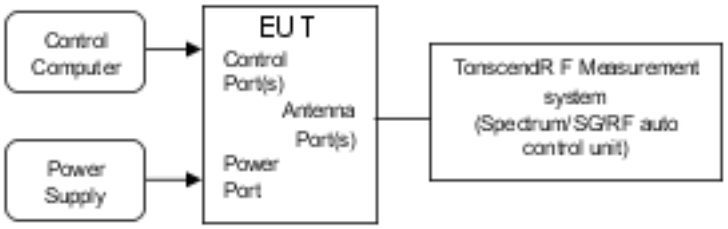
Note:

1, Result = Read level + Antenna factor + cable loss-Amp factor

2, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

9. RF CONDUCTED SPURIOUS EMISSIONS

9.1. Block diagram of test setup



9.2. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20dB.

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified

in § 15.209(a) (see § 15.205(c)).

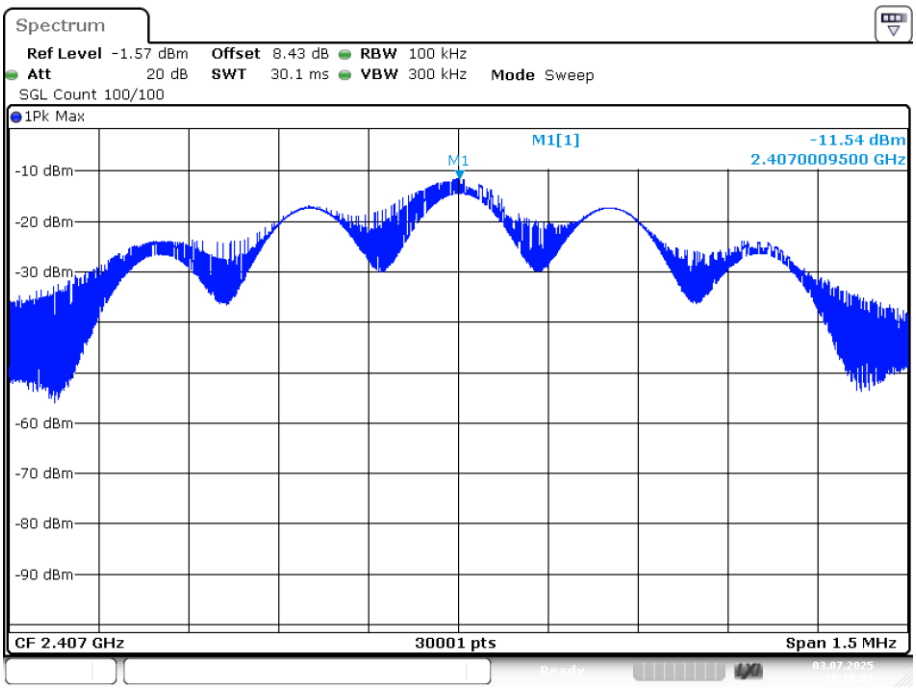
9.3. Test procedure

The test receiver set RBW = 100kHz, VBW≥3*RBW =300kHz, sweep time set auto

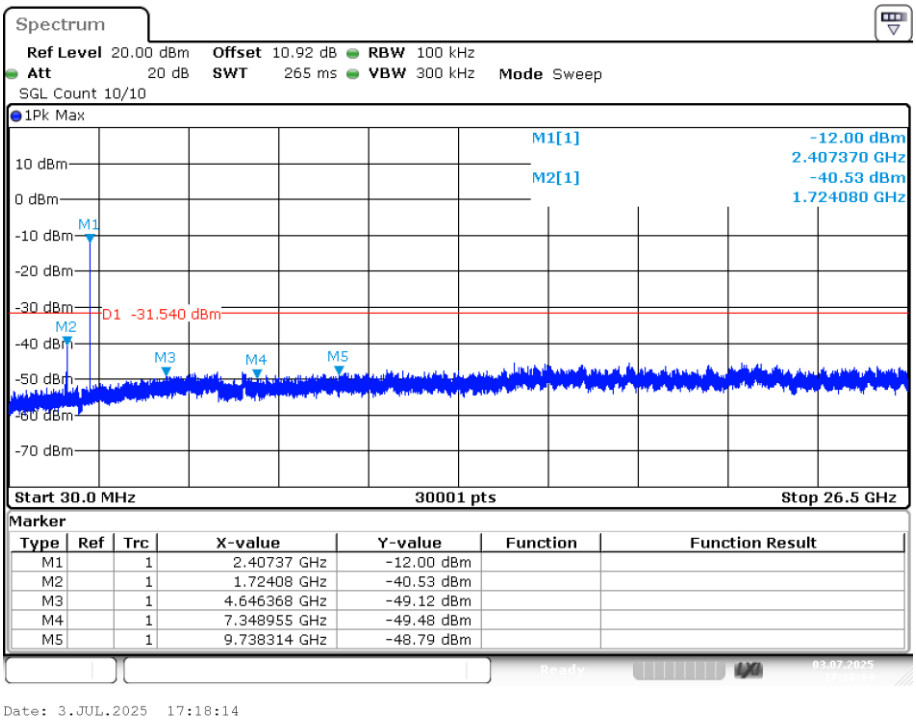
9.4. Test result

PASS

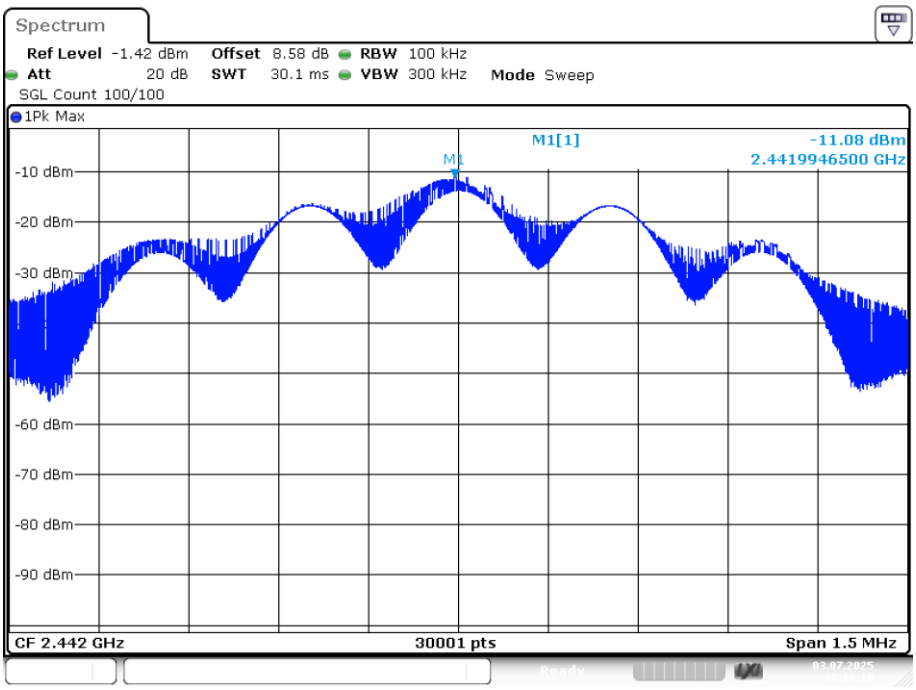
Tx. Spurious NVNT GFSK 2407MHz Ant1 Ref



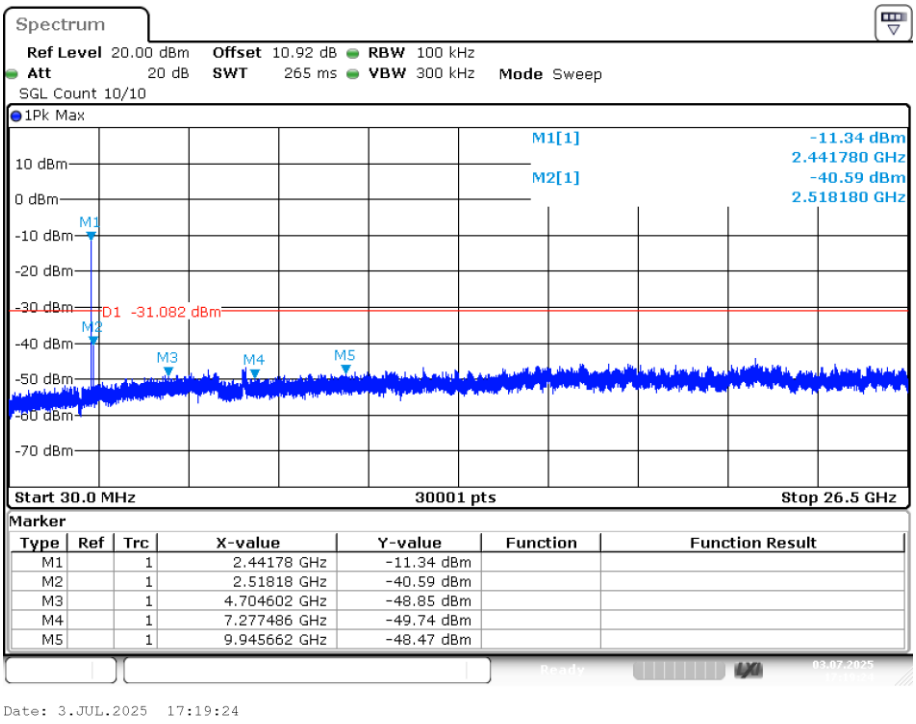
Tx. Spurious NVNT GFSK 2407MHz Ant1 Emission



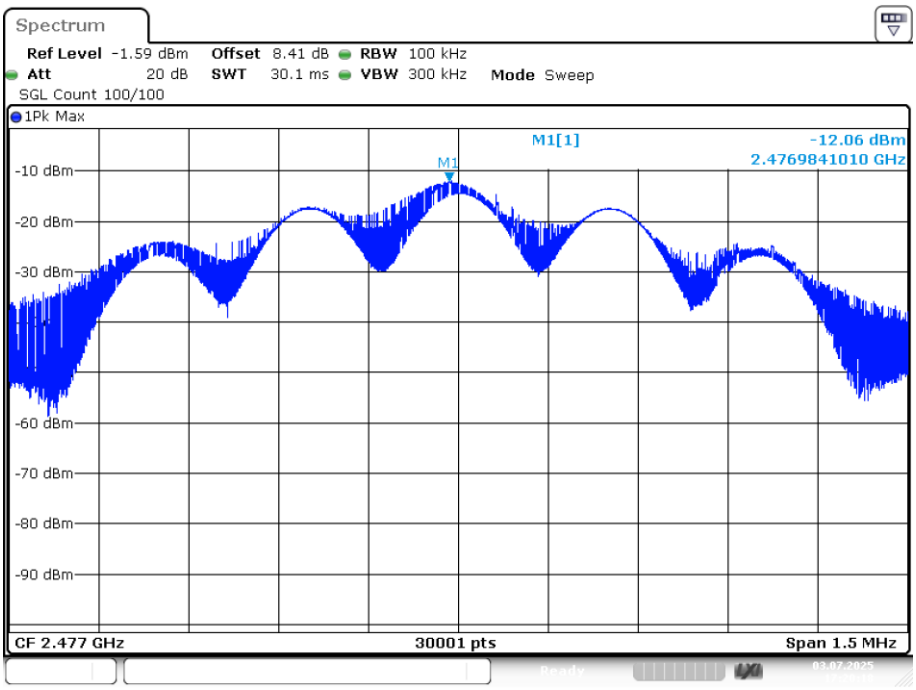
Tx. Spurious NVNT GFSK 2442MHz Ant1 Ref



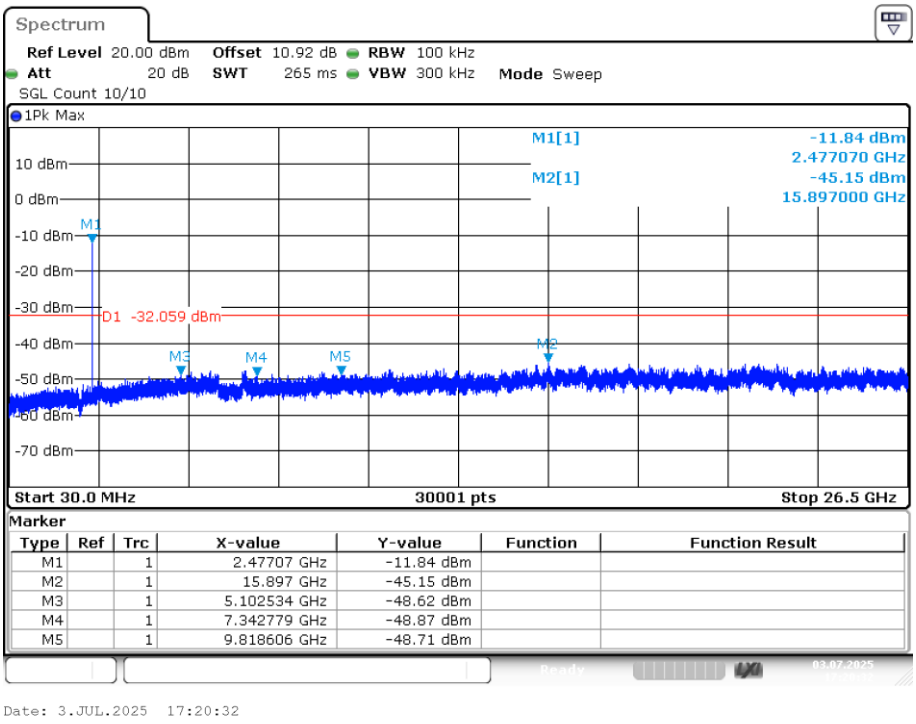
Tx. Spurious NVNT GFSK 2442MHz Ant1 Emission



Tx. Spurious NVNT GFSK 2477MHz Ant1 Ref

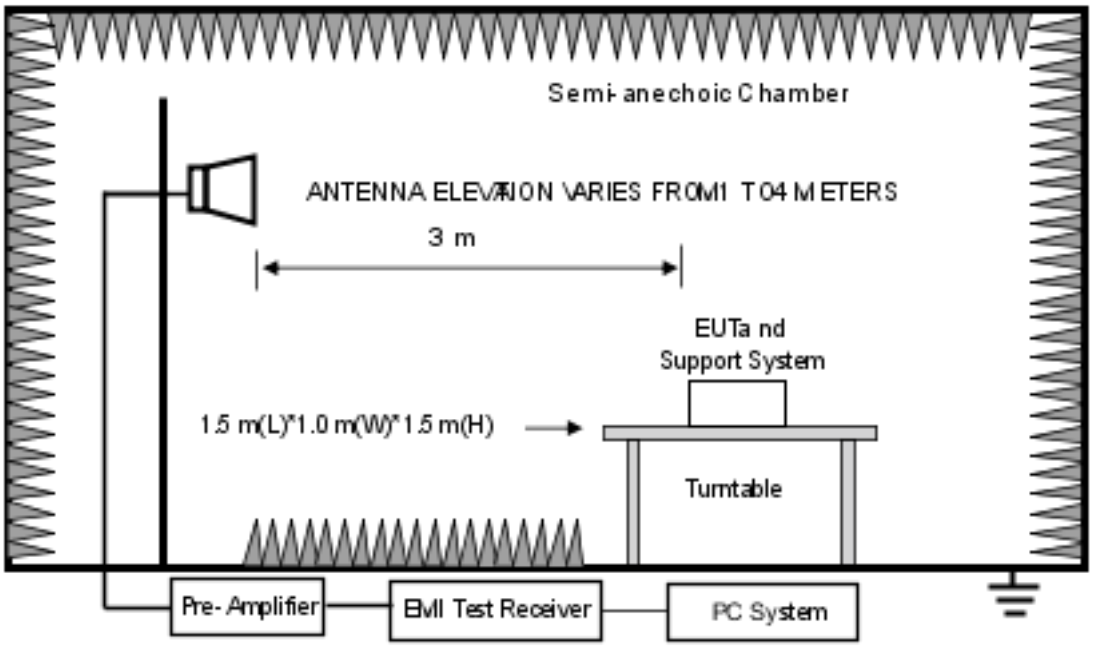


Tx. Spurious NVNT GFSK 2477MHz Ant1 Emission



10. BAND EDGE COMPLIANCE

10.1.Block Diagram of Test Setup



10.2.Limit

Please refer section 15.247.

10.3.Test Procedure

Details see the KDB 558074 D01 15.247 Meas Guidance v05r02

10.3.1 Put the EUT on a 0.8m high table, power on the EUT. Emissions were scanned and measured rotating the EUT to 360 degrees, Find the maximum Emission

10.3.2 Check the spurious emissions out of band.

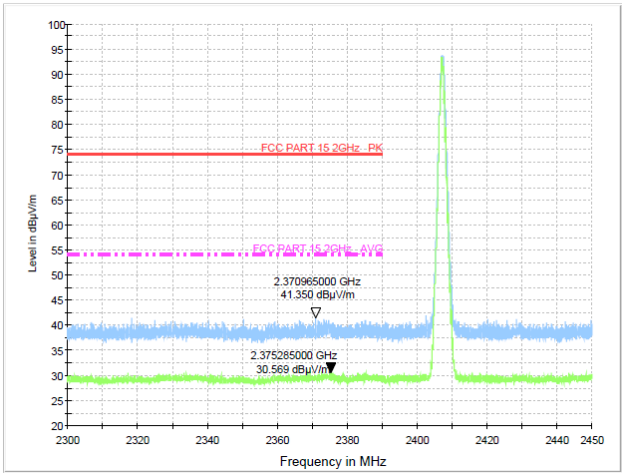
10.3.3 RBW 1MHz, VBW 3MHz, peak detector for peak value, RBW 1MHz, VBW 3MHz, RMS detector for AV value.

All restriction band and non- restriction band have been tested, only worse case is reported.

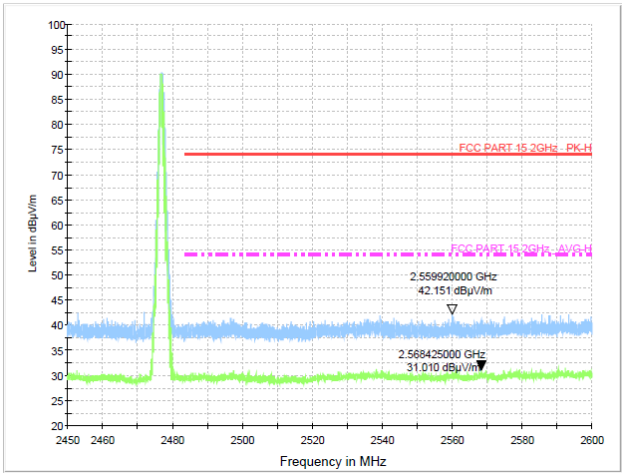
10.4.Test Result

PASS. (See below detailed test data)

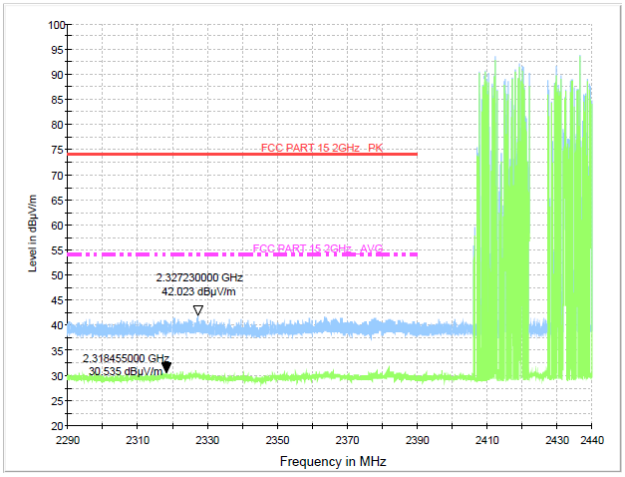
Test Mode: GFSK-Low Hopping-off



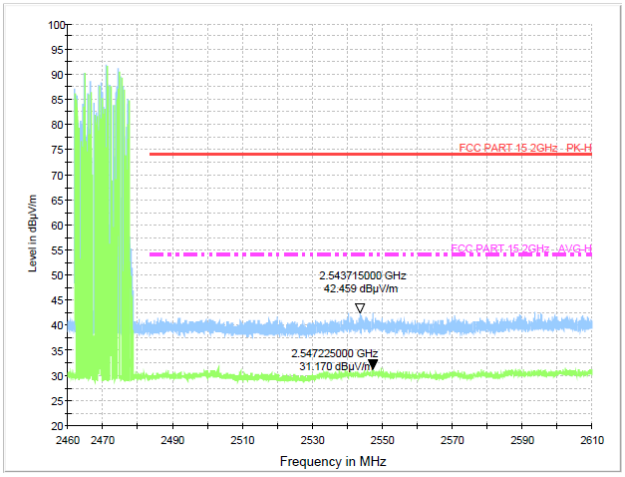
Test Mode: GFSK-High Hopping-off



Test Mode: GFSK-Low Hopping-on



Test Mode: GFSK-High Hopping-on

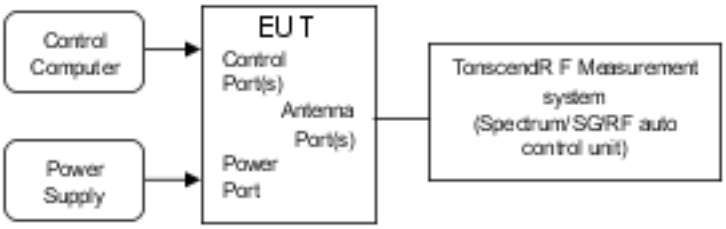


Note: 1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

11. BAND EDGE (CONDUCTED)

11.1.Block diagram of test setup



11.2.Test limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

11.3.Test Procedure

Details see the KDB 558074 D01 15.247 Meas Guidance v05r02

Place the EUT on the table and set it in transmitting mode.

11.3.1. Place the EUT on the table and set it in transmitting mode.

11.3.2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

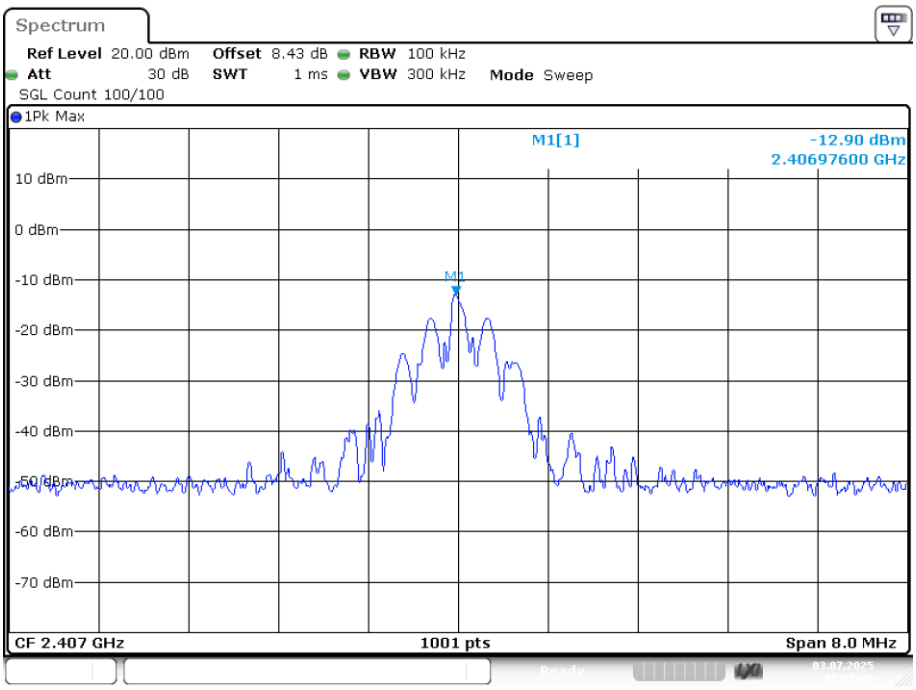
11.3.3. Set the spectrum analyzer as RBW=100KHz, VBW=300KHz, Sweep = auto.

11.3.4. Repeat above procedures until all frequency measured were complete..

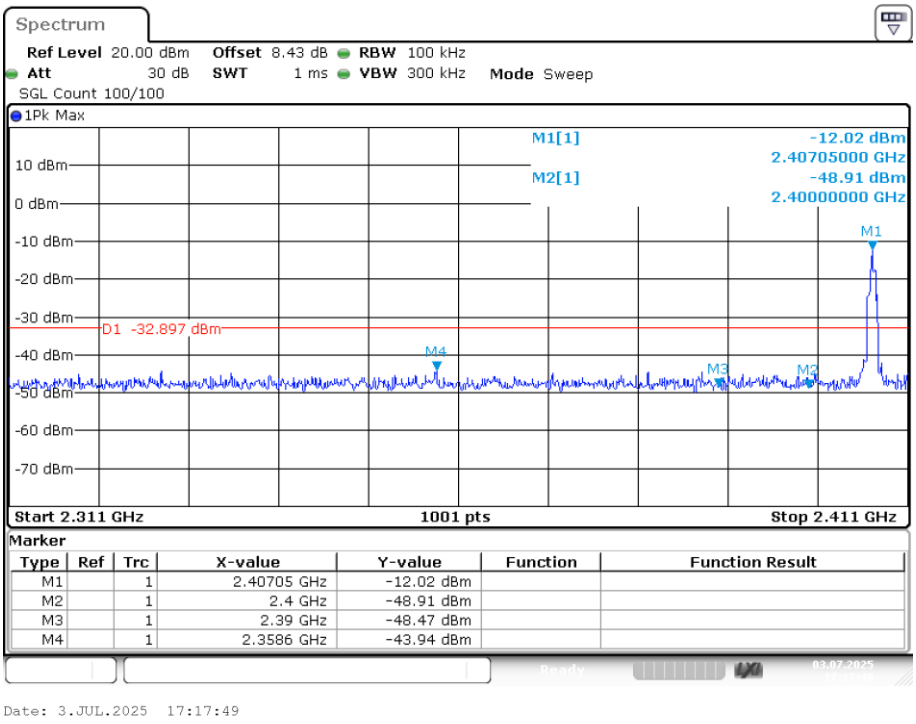
11.4.Test Results

Pass

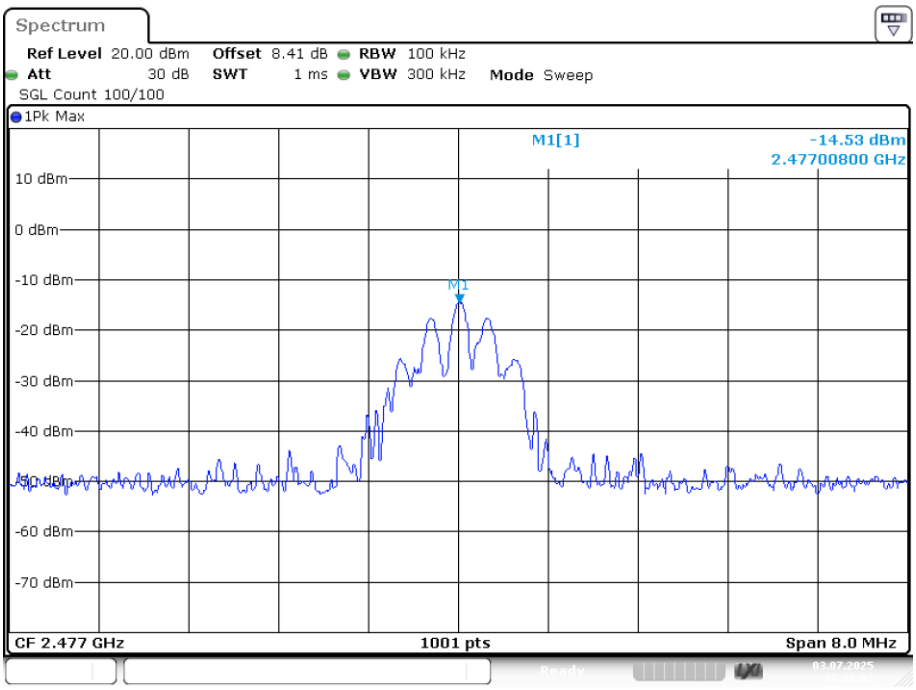
Band Edge NVNT GFSK 2407MHz Ant1 No-Hopping Ref



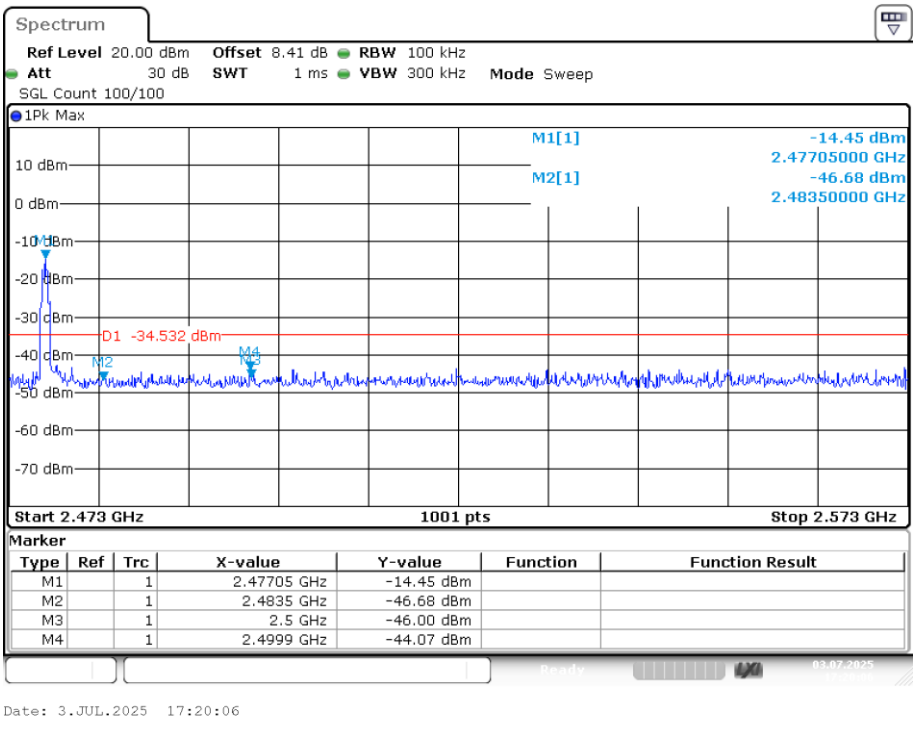
Band Edge NVNT GFSK 2407MHz Ant1 No-Hopping Emission



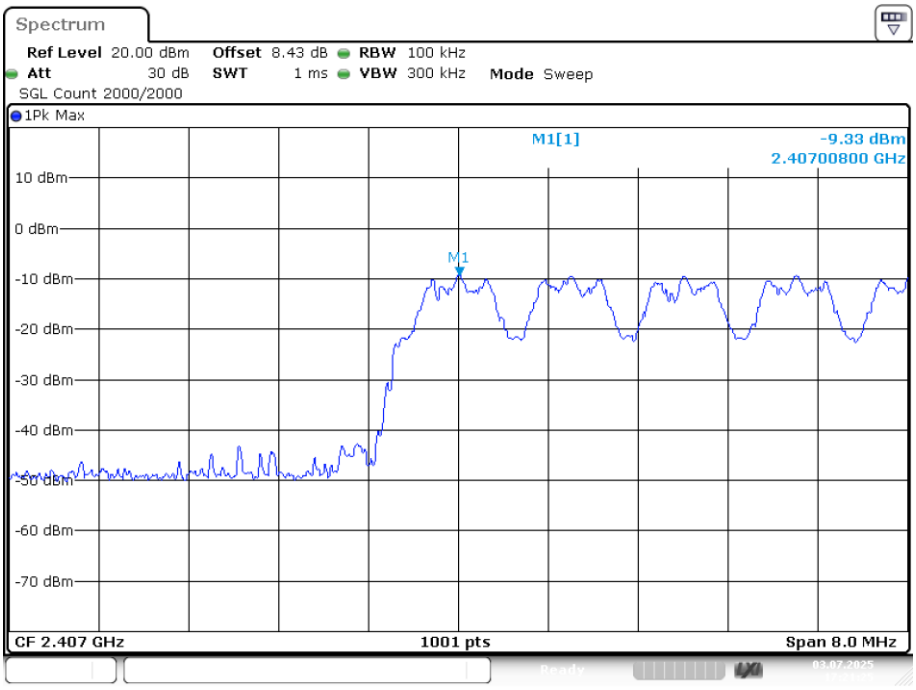
Band Edge NVNT GFSK 2477MHz Ant1 No-Hopping Ref



Band Edge NVNT GFSK 2477MHz Ant1 No-Hopping Emission

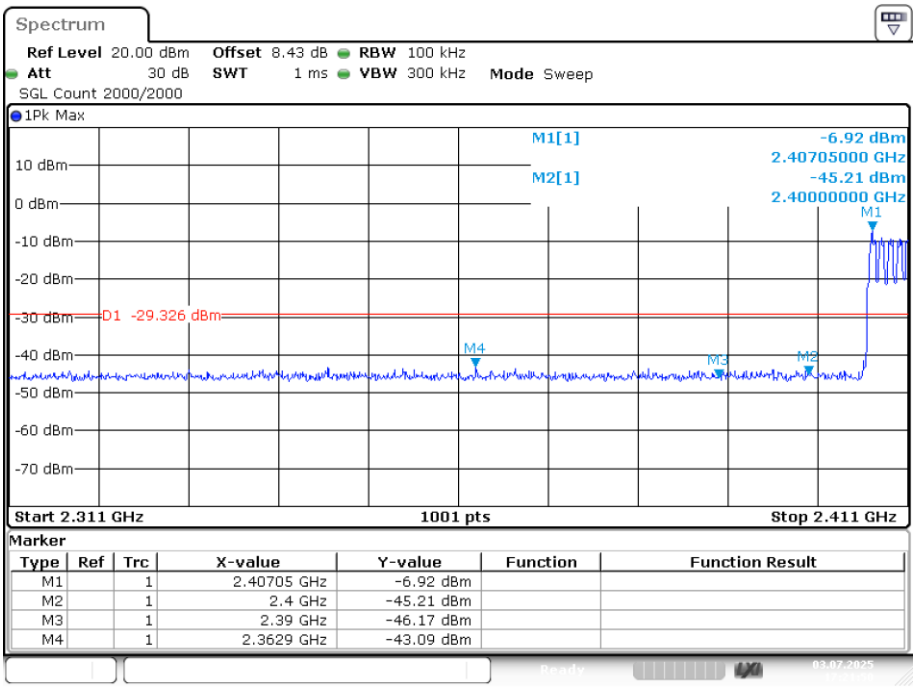


Band Edge(Hopping) NVNT GFSK 2407MHz Ant1 Hopping Ref



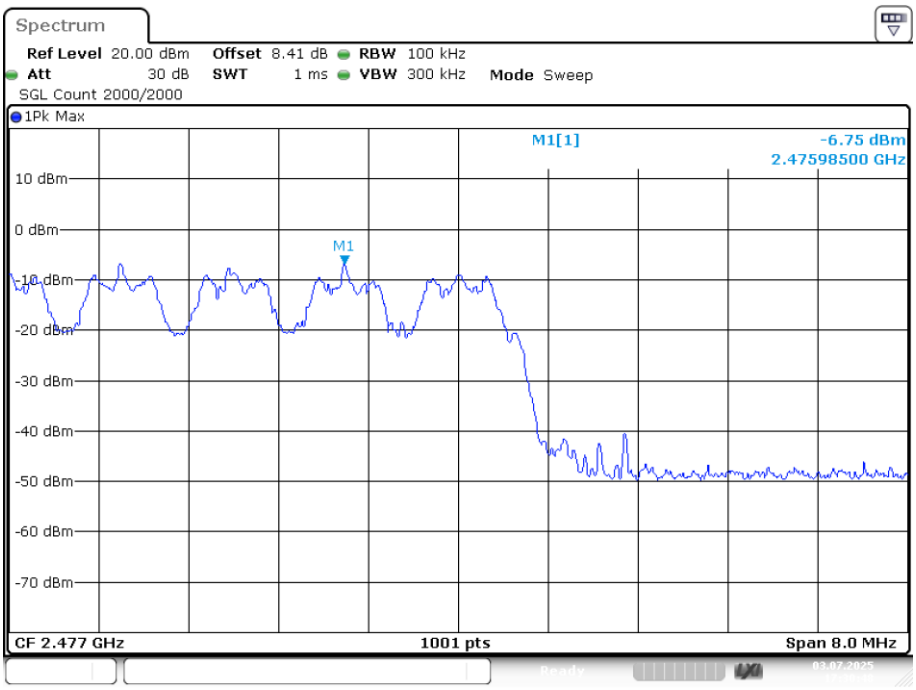
Date: 3.JUL.2025 17:21:25

Band Edge(Hopping) NVNT GFSK 2407MHz Ant1 Hopping Emission

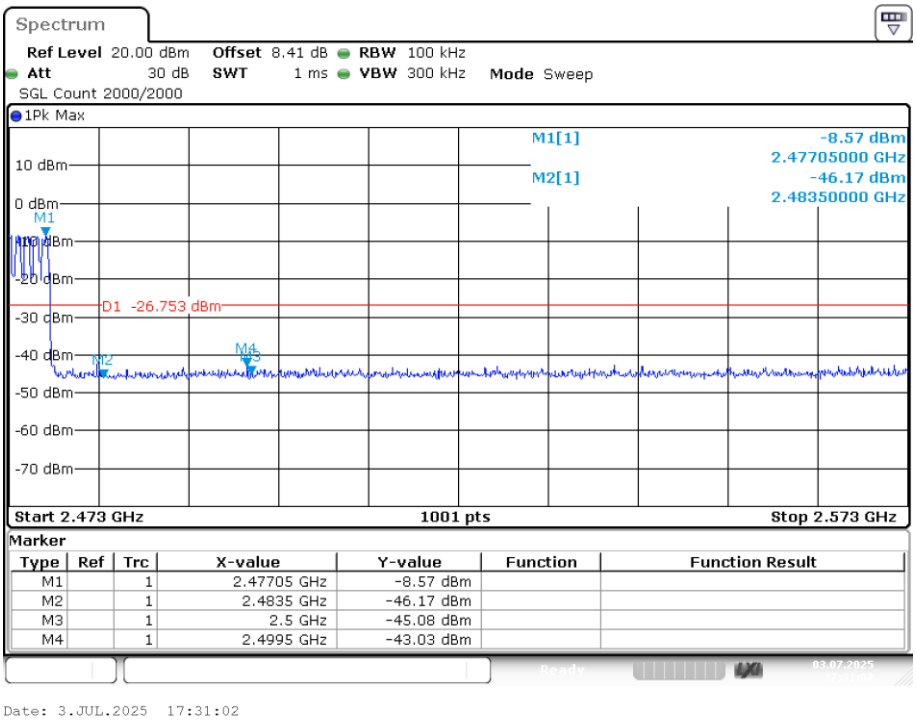


Date: 3.JUL.2025 17:21:50

Band Edge(Hopping) NVNT GFSK 2477MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT GFSK 2477MHz Ant1 Hopping Emission



12. ANTENNA REQUIREMENTS

12.1.Limit

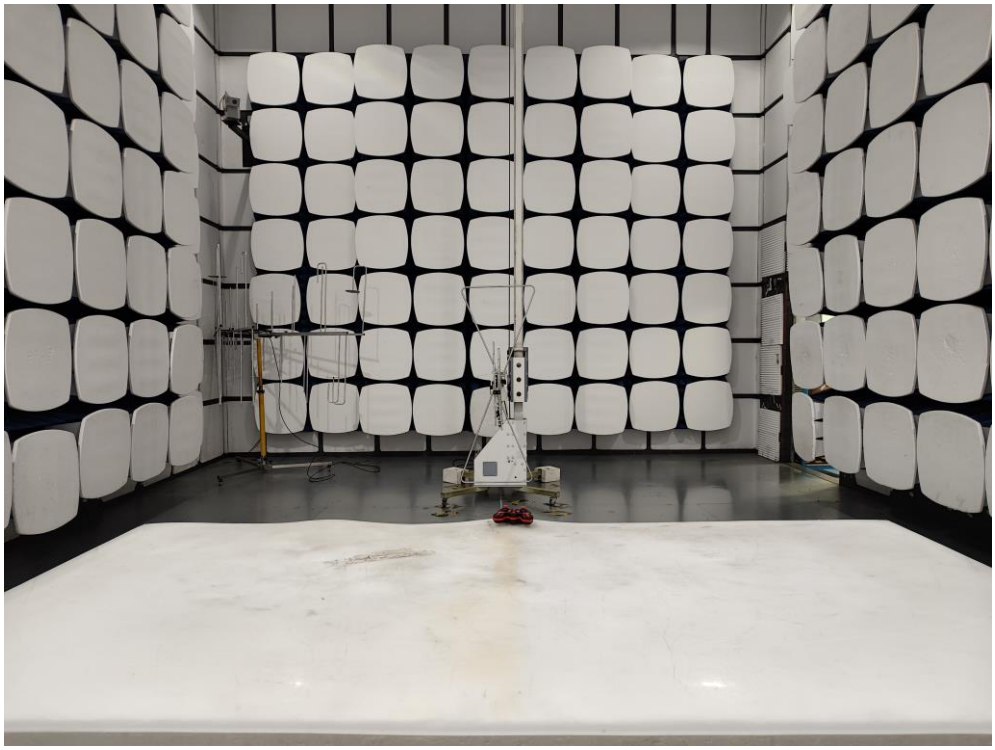
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

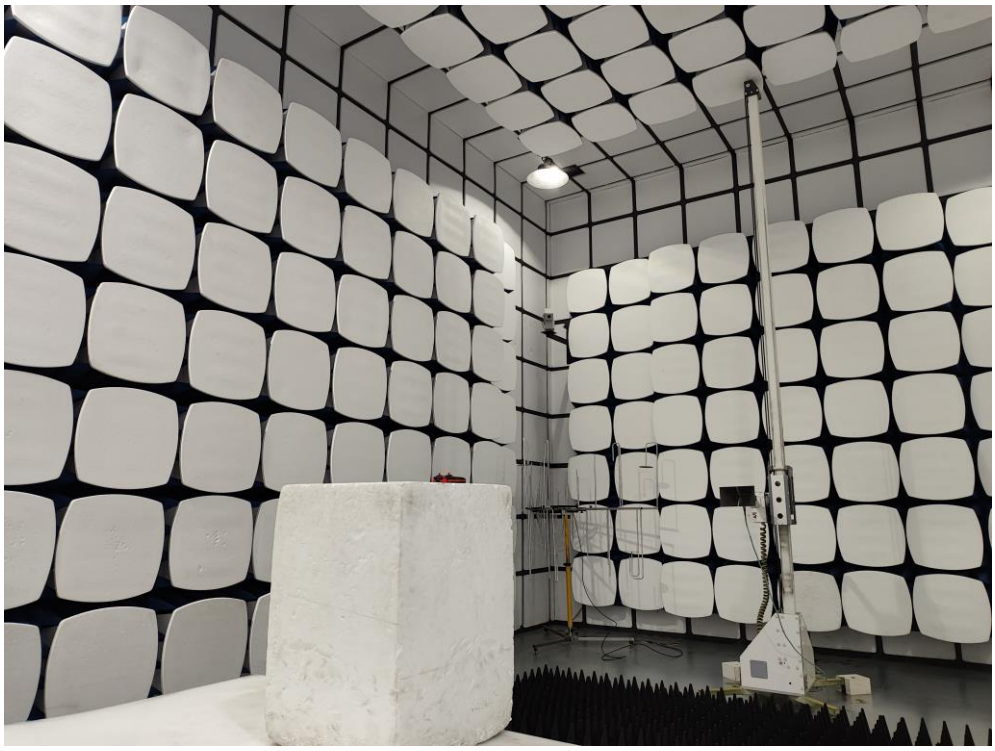
12.2.Result

The EUT antenna is Internal Antenna. It complies with the standard requirement.

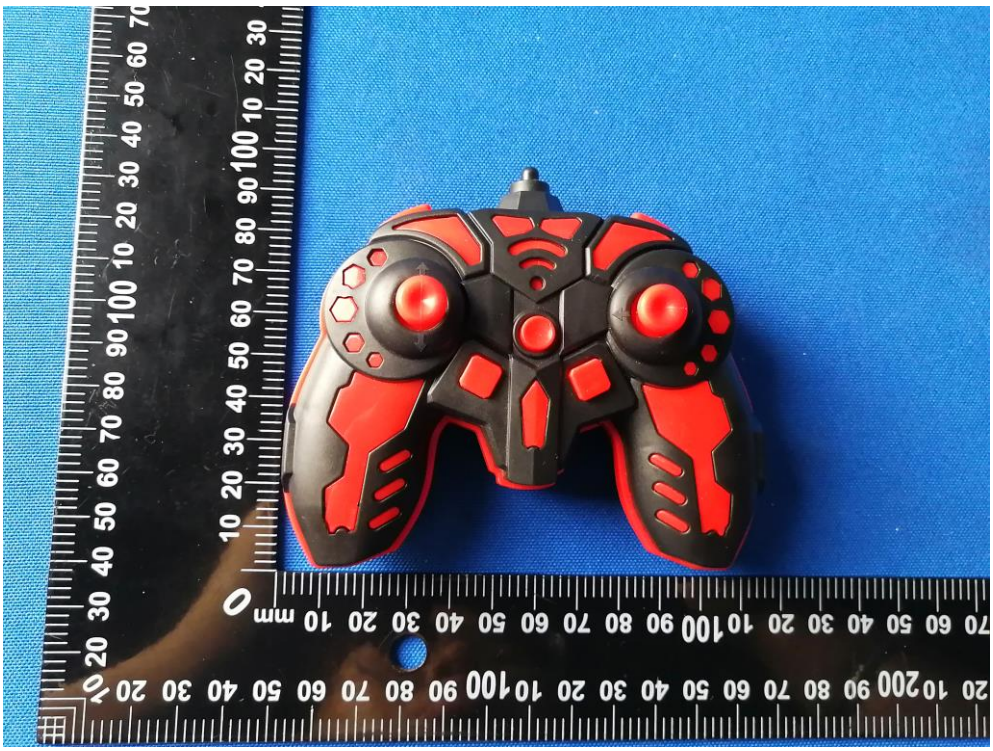
13. TEST SETUP PHOTO

13.1.Photo of Radiated Emission test

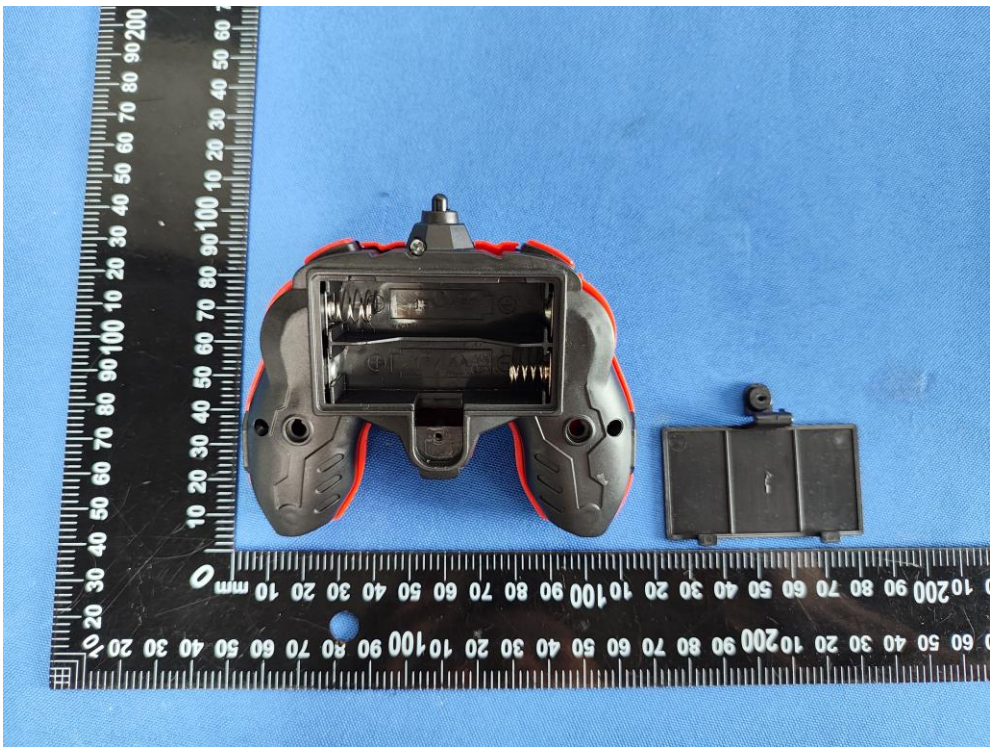


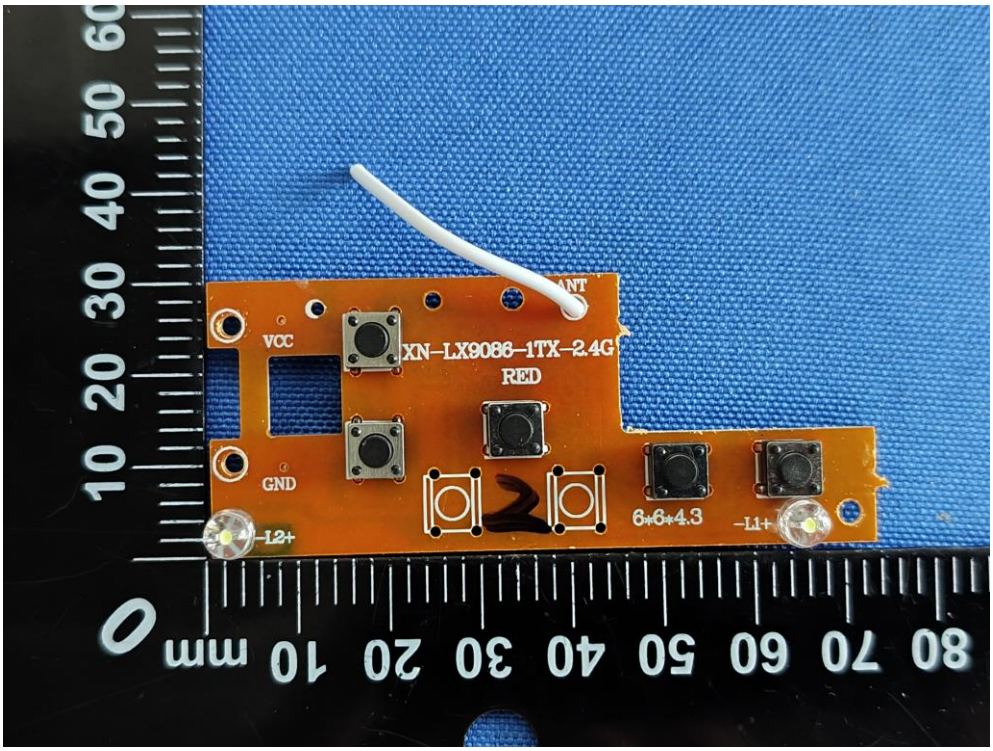


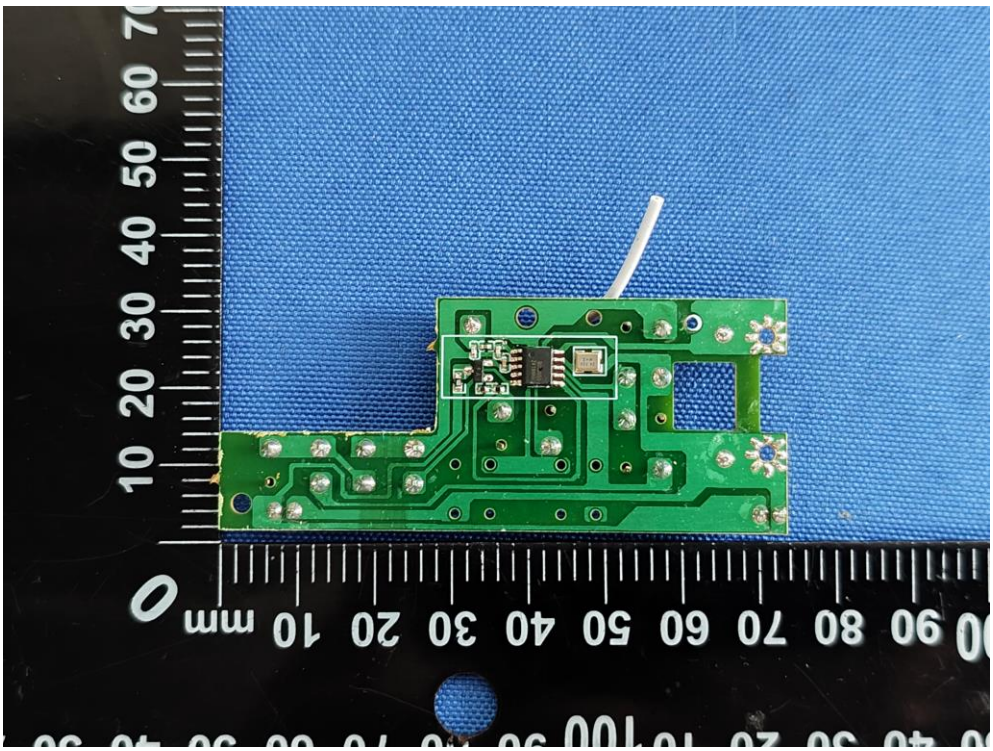
14. EUT PHOTO

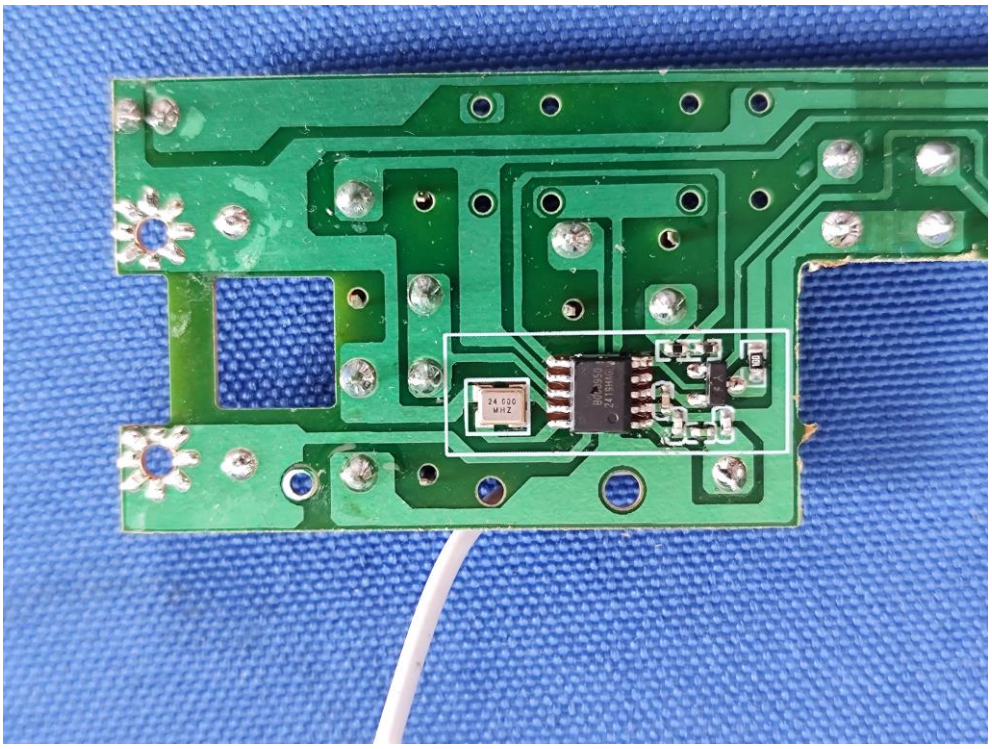


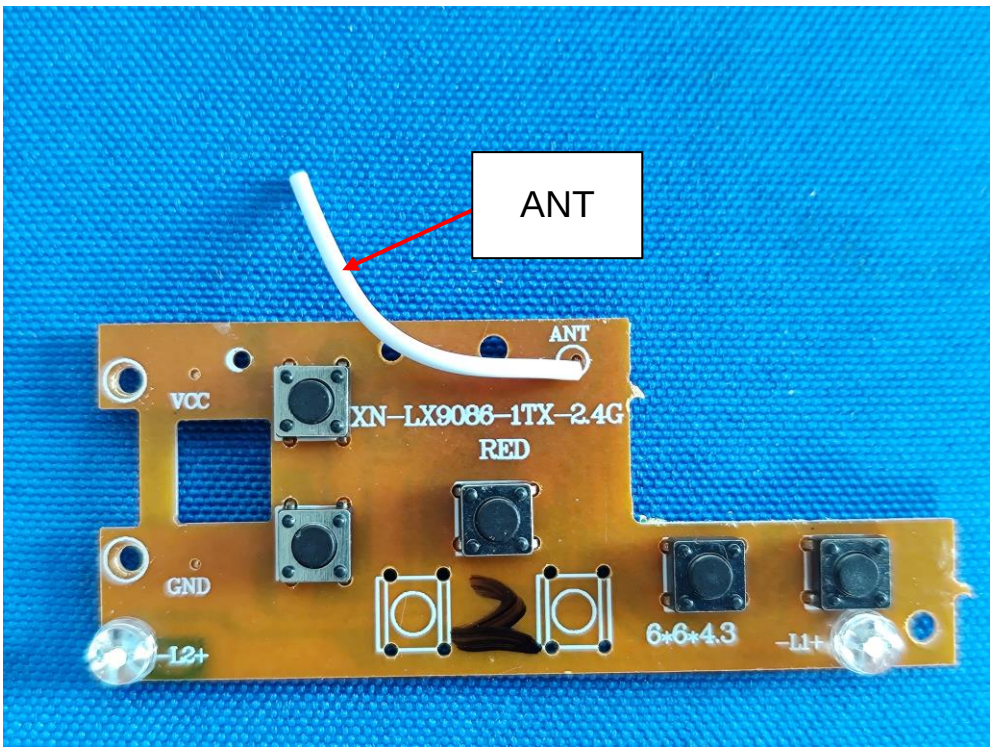

MADE IN CHINA
OPEN




VCC
XN-LX9086-1TX-2.4G
RED
GND
6*6*4.3
-L1+
-L2+






ANT
ANT
VCC
XN-LX9086-1TX-2.4G
RED
GND
6*6*4.3
-L2+
-L1+

15. MODEL LIST

Model List					
9076	9076S	9078	9078S	9079	9079S
9086S	9086-1	9086-1S	9086-2	9086-2S	9071
9072	9073	9074	9071S	9072S	9073S
9074S	283	283Q	8080	8080S	8081
8081S	8082	8082S	9029QA	9085	9084
281	282	285	286	8068	8069
9066-1	9066-1S	9066	9066S	9029SA	9061
9062	9060S	9061S	9062S	9093	9095
9096	9097	9098	9010	9011	9013
9015	9016	9017	9018	9019	9020
9021	9022	9023	9025	9026	9027
9028	9029	9030	9031	9032	9033
9035	9036	9037	9038	9039	9050
9051					

-------END OF REPORT-------